

In the Claims:

1. (Previously presented) In an agricultural harvester having a crop processing unit comprising an axial rotor having an axis of rotation and a housing, the rotor comprising:

a drum having a rearward cylindrical portion and a forwardly extending frusto-conical portion, the surface of the frusto-conical portion comprising an aft-region adjacent to the rearward cylindrical portion of the drum, and a fore-region;

an infeed section for receiving harvested crop material, the infeed section having at least one infeed element located on the fore-region of the frusto-conical portion of the drum;

a crop processing section for processing harvested crop material received from the infeed section of the rotor, the crop processing section having at least one crop processing element located on the aft-region of the frusto-conical portion of the drum, the crop processing element having a crop engaging portion that is parallel to the axis of rotation,

wherein the infeed element and the crop processing element are helically orientated and are helically aligned on the frusto-conical portion.

2. (Previously presented) The rotor described in Claim 1 wherein the crop engaging portion of the crop processing element of the crop processing section sweeps a cylindrical path upon rotation of the rotor.

3. (Previously presented) The rotor described in Claim 2 wherein the crop processing section is a threshing section and the crop processing element is a threshing element.

4. (Original) The rotor described in Claim 3 wherein the infeed element is a helical infeed flight.

5. (Previously presented) The rotor described in Claim 1 having at least a second crop processing element located on the rearward cylindrical portion of the drum.

6. (Previously presented) The rotor described in Claim 5 wherein the second crop

processing element of the crop processing section sweeps a cylindrical path upon rotation of the rotor.

7. (Previously presented) The rotor described in Claim 6 wherein the crop processing section is a threshing section and the second crop processing element is a threshing element.

8. (Original) The rotor described in Claim 7 wherein the infeed element is a helical infeed flight.

9. (Previously presented) In an agricultural harvester having a crop processing unit comprising a rotor having an axis of rotation and a housing, the rotor comprising:

a drum having a rearward cylindrical portion and a forwardly extending frusto-conical portion, the surface of the frusto-conical portion comprising an aft-region adjacent to the rearward cylindrical portion of the drum, and a fore-region;

an infeed section for receiving harvested crop material, the infeed section having at least one infeed element located on the fore-region of the frusto-conical portion of the drum;

a crop processing section for processing harvested crop material received from the infeed section of the rotor, the crop processing section having at least one crop processing element located on the aft-region of the frusto-conical portion of the drum, the crop processing element having a crop engaging portion that is parallel to the axis of rotation and sweeps a cylindrical path upon rotation of the rotor,

wherein the infeed element and the crop processing element are helically orientated and are helically aligned on the frusto-conical portion.

10. (Original) The rotor described in Claim 9 wherein the crop processing section is a threshing section and the crop processing element is a threshing element.

11. (Original) The rotor described in Claim 10 wherein the infeed element is a helical infeed flight.

12. (Previously presented) The rotor described in Claim 9 having at least a second crop processing element located on the rearward cylindrical portion of the drum.

13. (cancelled)

14. (Previously presented) The rotor described in Claim 12 wherein the crop processing section is a threshing section and the crop processing element is a threshing element.

15. (Original) The rotor described in Claim 14 wherein the infeed element is a helical infeed flight.

16. (Currently amended) An axial rotor for a crop processing unit in ~~in~~ an agricultural harvester ~~having a crop processing unit comprising a~~ the rotor having an axis of rotation and a housing, the rotor comprising:

a drum having a rearward cylindrical portion and a forwardly extending frusto-conical portion, the surface of the frusto-conical portion comprising an aft-region adjacent to the rearward cylindrical portion of the drum, and a fore-region;

an infeed section for receiving harvested crop material, the infeed section having at least one infeed element located on the fore-region of the frusto-conical portion of the drum;

a crop processing section for processing harvested crop material received from the infeed section of the rotor, the crop processing section having at least a plurality of first crop processing element elements located on the aft-region of the frusto-conical portion of the drum and positioned in a staggered pattern on the frusto-conical portion, the each first crop processing element having a crop engaging portion that is parallel to the axis of rotation

wherein the infeed element and the first crop processing element are helically orientated and are helically aligned on the frusto-conical portion

and having at least a plurality of second crop processing element elements located on the rearward cylindrical portion of the drum.

17. (Previously presented) The rotor described in Claim 16 wherein the crop processing section is a threshing section and the first and second crop processing element is a threshing element.

18. (Original) The rotor described in Claim 17 wherein the infeed element is a helical infeed flight.

19. (Currently amended) The rotor described in Claim 16 wherein the staggered pattern of first crop processing element elements of the crop processing section sweeps a cylindrical path upon rotation of the rotor.

20. (Previously presented) The rotor described in Claim 19 wherein the crop processing section is a threshing section and the first and second crop processing element is a threshing element.